

| Ref # | Hits | Search Query  | DBs   | Default Operator | Plurals | Time Stamp       |
|-------|------|---|---|------------------|---------|------------------|
| S1    | 7    | semiconductor adj substrate and organic adj substrate and pad and solder and ("coefficent of thermal expansion" or cte) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR               | ON      | 2004/09/10 09:08 |
| S2    | 6    | ("5471090"   "6005292"   "6046910"   "6118181"   "6232668"   "6271597").PN.   | USPAT                                       | OR               | ON      | 2002/11/05 12:59 |
| S3    | 0    | "6310403".URPN.   | USPAT                                       | OR               | ON      | 2002/11/05 13:02 |
| S4    | 6    | ("5471090"   "6005292"   "6046910"   "6118181"   "6232668"   "6271597").PN.   | USPAT                                       | OR               | ON      | 2002/11/05 13:02 |
| S5    | 9    | ("3842189"   "4056681"   "4647959"   "4949148"   "5214308"   "5302854"   "5331513"   "5528461"   "5657207").PN.         | USPAT                                       | OR               | ON      | 2002/11/05 13:02 |
| S6    | 5    | "6046910".URPN.   | USPAT                                       | OR               | ON      | 2002/11/05 13:03 |
| S7    | 4345 | "coefficent of thermal expansion" or cte  | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR               | ON      | 2002/11/05 13:16 |
| S8    | 31   | ((257/786).CCLS.) and ("coefficent of thermal expansion" or cte)  | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR               | ON      | 2002/11/05 13:06 |
| S9    | 1299 | c4 same solder  | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR               | ON      | 2002/11/05 13:07 |
| S10   | 169  | ("coefficent of thermal expansion" or cte) and (c4 same solder)   | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR               | ON      | 2002/11/06 13:55 |
| S11   | 327  | gigapascal  | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR               | ON      | 2002/11/05 13:16 |
| S12   | 19   | ("coefficent of thermal expansion" or cte) and gigapascal   | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR               | ON      | 2002/11/05 13:18 |

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| S13 | 0     | underfill adj material same gigapascal  | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB        | OR | ON  | 2002/11/05 13:19 |
| S14 | 775   | underfill adj material  | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB        | OR | ON  | 2002/11/05 13:19 |
| S15 | 188   | ("coefficent of thermal expansion" or cte) and (underfill adj material )  | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB        | OR | ON  | 2002/11/05 13:19 |
| S16 | 143   | conductive adj pad and solder and bump and c4   | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB        | OR | ON  | 2002/11/05 13:41 |
| S17 | 1235  | (257/786).CCLS.   | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2002/11/06 09:10 |
| S18 | 195   | c4 and solder and ("coefficent of thermal expansion" or cte)  | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB        | OR | ON  | 2002/11/06 13:51 |
| S19 | 7841  | (lead adj base adj solder) or (lead-tin) or (pb adj sn or pbsn)   | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB        | OR | ON  | 2002/11/06 14:46 |
| S20 | 20    | ("coefficent of thermal expansion" or cte) and (c4 same solder) and ((lead adj base adj solder) or (lead-tin) or (pb adj sn or pbsn)) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB        | OR | ON  | 2002/11/06 13:56 |
| S21 | 2570  | (lead adj base adj solder) or (lead-tin) or (pb adj sn or pbsn) and c4  | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB        | OR | ON  | 2002/11/06 15:00 |
| S22 | 14566 | flip adj chip or flipchip   | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB        | OR | ON  | 2002/11/06 14:47 |

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| S23 | 386  | ((lead adj base adj solder) or (lead-tin) or (pb adj sn or pbsn) and c4) and (flip adj chip or flipchip) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2002/11/06 14:47 |
| S24 | 245  | ((lead adj base adj solder) or (lead-tin) or (pb adj sn or pbsn)) and c4                                 | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2002/11/06 15:01 |
| S25 | 69   | larger near pad and smaller near pad and solder  | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2003/11/11 10:14 |
| S26 | 6    | ("4673772"   "5616520"   "5761048"   "5859407"   "5907187"   "6093964").PN.                              | USPAT                                       | OR | ON | 2003/11/11 10:23 |
| S27 | 1    | "6285083".URPN.  | USPAT                                       | OR | ON | 2003/11/11 10:25 |
| S28 | 2    | "6274474".URPN.  | USPAT                                       | OR | ON | 2003/11/11 10:32 |
| S29 | 0    | beriner.in.  | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2003/11/18 13:41 |
| S30 | 670  | bernier.in.  | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2003/11/18 13:41 |
| S31 | 7    | solder adj ball and bernier.in.  | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2003/11/18 13:43 |
| S32 | 6925 | carey.in. or gramatzki.in. or homa.in. or langevin.in. or tran.in. or "white.in"                         | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2003/11/18 13:44 |
| S33 | 20   | solder adj ball and (carey.in. or gramatzki.in. or homa.in. or langevin.in. or tran.in. or "white.in")   | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2003/11/18 13:45 |
| S34 | 57   | "5075965".URPN.  | USPAT                                       | OR | ON | 2003/11/18 13:50 |
| S35 | 0    | "6330967".URPN.  | USPAT                                       | OR | ON | 2003/11/18 13:54 |

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| S36 | 25   | ("4545610"   "5060844"   "5075965"   "5161729"   "5221038"   "5234152"   "5372298"   "5429292"   "5470787"   "5473814"   "5580668"   "5591941"   "5634268"   "5639696"   "5675889"   "5729896"   "5796591"   "5808853"   "5825629"   "5912505"   "5953623"   "5965945"   "6121069"   "6130476"   "6162660").PN. | USPAT  | OR | ON  | 2003/11/18 13:54 |
| S37 | 27   | organic adj substrate and (bump or electrode or pad) and solder adj ball and semiconductor adj substrate  | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB        | OR | ON  | 2004/09/03 14:30 |
| S38 | 2    | ("5889326").PN.   | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/09/10 09:16 |
| S39 | 9    | ("4724472"   "4970570"   "5028987"   "5422516"   "5508561"   "5611481"   "5640051"   "5640052"   "5641113").PN.   | USPAT  | OR | ON  | 2004/09/10 09:11 |
| S40 | 27   | "5889326".URPN.   | USPAT  | OR | ON  | 2004/09/10 09:12 |
| S41 | 3540 | ((257/747) or (257/759) or (257/773) or (257/779)).CCLS.  | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/09/10 09:17 |
| S42 | 5624 | organic adj substrate   | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB        | OR | ON  | 2004/09/10 09:17 |
| S43 | 60   | (((257/747) or (257/759) or (257/773) or (257/779)).CCLS.) and (organic adj substrate)  | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB        | OR | ON  | 2004/09/10 09:28 |
| S44 | 113  | (257/474).CCLS.   | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/09/10 09:29 |

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| S45 | 256 | (257/747).CCLS.                           | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2004/09/10 09:29 |
| S46 | 143 | pad adj size and semiconductor<br>adj die | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB           | OR | ON  | 2004/12/10 09:32 |
| S47 | 2   | organic adj substrate and S46             | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB           | OR | ON  | 2004/12/10 09:32 |
| S48 | 10  | ("6166556").URPN.                         | USPAT   | OR | ON  | 2004/12/10 09:41 |